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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,778	09/29/2003	Byeong-hwa Ahn	1349.1279	1062
21171	7590	08/19/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LEE, PETER	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,778

Applicant(s)

AHN ET AL.

Examiner

Peter Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 14 and 19 is/are rejected.
- 7) ☒ Claim(s) 6 and 8-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/25/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, 14, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst (US 5,627,722) in view of Oguma et al. (US 2002/0064390), and further in view of Osaka (US 5,051,866).

Hirst teaches a high voltage supply (fig. 1 part 101) for use in powering multiple developers in a color electrophotographic printer (abstract 1st sentence), the voltage supply device comprising: a switching network (fig. 1 part 102) with a plurality of relays (fig. 2 parts 250-252) for selectively connecting one out of the four developers (col. 2 lines 37-57) (ie. voltage changeover units for selectively supplying the voltage), while leaving the other 3 non-selected outputs at either a floating value, short, or a constant DC bias (col. 3 lines 1-3).

Hirst does not teach the developing rollers to have a fixed contact point at one end, nor does he explicitly teach the developers being set at a fixed distance from a photosensitive drum. Hirst also does not teach explicitly placing the circuits of the invention onto a printed circuit board with input and output terminals.

It is Oguma who teaches a development sleeve (fig. 1 part 12) having a coil spring

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electrode (fig. 1 part 29b) at one end as a contact portion to supply the development bias (p. 4 paragraph [0053]) (ie. fixed contact point terminal at one end of developing device). The development bias provided through the coil spring is used to power the many parts of the development unit (p. 4 paragraph [0053]) (ie. plurality of different elements of the developing devices). Oguma further teaches an image forming apparatus (fig. 4) that includes a photosensitive member, and a developing sleeve that is set at a fixed distance from the photosensitive drum (fig. 4 and fig. 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the developers taught by Hirst to have the coil spring electrodes at one end as taught by Oguma. One of ordinary skill in the art would have been motivated to do so in order to provide a more stable development bias voltage, and to ensure a more stable electric contact (p. 1 paragraph [0013] and [0015]). It is noted that the claim limitations call for a plurality of fixed contact terminals and a plurality of color developing devices. However, it is notoriously well known in the art to take a monotone image forming apparatus such as that taught by Oguma and make it a color image forming apparatus, upon which the "plurality" limitation will be met.

It is Osaka who teaches placing a power supply circuit for an image forming apparatus onto a printed circuit board (fig. 1; note: col. 2 lines 56-64). Osaka teaches the printed circuit board to have at one end an input connector for inputting from a power source (fig. 1 part 23) (ie. plurality of fixed contact terminals, PCB input terminal), and at the other end having output connectors (fig. 1 part 24) (ie. PCB output terminal) for selectively outputting the power to different parts of the image forming apparatus (col. 4 lines 3-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention

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taught by Hirst in view of Oguma, by placing the various power circuits onto a printed circuit board as is taught by Osaka, and having the inputs connected to the high voltage power supply taught in Hirst. By combining the references as such, the output terminals found on the printed circuit board of Osaka can be easily connected to the coil spring electrode taught by Oguma (ie. terminal connecting parts connecting the PCB output terminals and the fixed contact point terminals). One of ordinary skill in the art would have been motivated to do so in order to reduce an overall size of the apparatus (col. 3 lines 13-18).

Allowable Subject Matter

3. Claims 6, 8-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

The new drawings are seen to better match with the specification of the current application and will be entered.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Michlin et al. (US 5634175) is being cited for teaching a developer roller with a fixed spring contact terminal for applying a bias.

Toba et al. (US 6151465) is being cited for teaching a similar developer roller with a fixed spring contact terminal for applying a bias.

Takeyama et al. (US 6263178) is being cited for teaching a bias switching device for use in an image forming apparatus for selectively powering components within it.

Response to Arguments

6. Applicant's arguments filed June 24, 2005 have been fully considered but they are not persuasive.

Applicant argues on p. 8 that the development sleeve with a coil spring as taught by Oguma et al. (US 2002/0064390) is not a "fixed contact point terminal" and further is not "provided at one end". Examiner disagrees with applicant's argument. The spring type contact points provided by Oguma et al. is clearly seen in fig. 1 to be located at one end portion of the developing roller, and is not taught to be movable to any other portion other than that as seen in

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the figure. Further, applicant's invention itself teaches the use of a spring to be used as a terminal for conducting a bias to/from a developing roller (paragraph [0072]).

Applicant argues on the top of p. 9, the a voltage changeover unit for selectively connecting the fixed contact point terminals to selectively supply voltage to the respective color developing device. This of a voltage changeover unit (ie. switching network as taught in Hirst) limitation is clearly taught by Hirst and the new office action has been rewritten to better point out this limitation for the applicant's convenience.

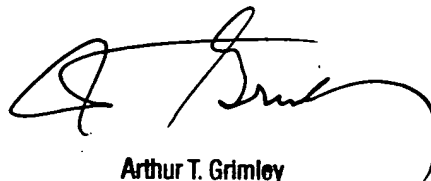
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 8/9/2005



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